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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
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ART UNIT	PAPER NUMBER
1633	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/536,563	KOKUZAWA ET AL.	
	Examiner	Art Unit	
	FEREYDOUN G. SAJJADI	1633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 December 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *4-8 and 15-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4-8 and 15-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Request for Continued Examination

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 21, 2007 that includes a response to the final office action dated August 3, 2007, has been entered. Claims 4-6 have been amended, and claims 15-23 newly added. No claims were cancelled.

Claims 4-8 and 15-23 are pending in the application and under current examination.

Response to Claim Objections

Claims 4-6 were objected to for newly reciting non-elected subject matter, in the previous office action dated August 3, 2007. In view of Applicants' amendment of the claims, deleting the non-elected matter, the objection is rendered moot and hereby withdrawn.

New Claim Rejections - 35 USC § 112- New Matter

Applicants' claim amendments have necessitated the following new grounds of rejection.

Claims 6 and 18-21 are newly rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art (hereafter the Artisan), that the inventor(s), at the time the application was filed, had possession of the claimed invention. 37 CFR §1.118 (a) states that "No amendment shall introduce new matter into the disclosure of an application after the filing date of the application".

New claim 18 depends from the method of claim 6, and recites: "wherein the majority of the population of cells are neurons". Base claim 6 recites two populations of cells; a first population of cells that is not differentiated, and a second population of cells containing neurons and glial cells. The instant specification is devoid of support for the limitation of the majority of the second population of differentiated cells being neurons. Applicants have indicated that support for said limitation may be found on pp. 37-38 of the specification. However, the as filed specification states: "when HGF was added to the medium during differentiation, neurons were obtained more than astrocytes" (p. 37 and Fig. 5a). In contrast, base claim 6 recites differentiation into neurons and glial cells (i.e. astrocytes and oligodendrocytes; p. 4 of the specification, lines 1-2). As is clear from Fig. 5a, if oligodendrocytes were included with the astrocytes to represent a combined population of glial cells, then neurons would likely not comprise a statistically significant majority of the total population of differentiated cells.

New claims 19-21 are each directed to methods comprising culturing neural stem cells "at atmospheric oxygen levels". Applicants have indicated that the new claims find support on p. 29, lines 3-22 and throughout the specification, further stating that it is clear that the culturing conditions of the present invention were carried under atmospheric oxygen levels. However, the instant specification is silent on culture conditions under any type of oxygen levels. Page 29 of the specification is devoid of any reference with respect to oxygen or CO_2 levels. Thus, at the time the application was filed, an Artisan of skill would not recognize from the disclosure that Applicant was in possession of culturing "at atmospheric oxygen levels", or stem cell differentiation "wherein the majority of the population of cells are neurons", as instantly claimed.

MPEP 2163.06 notes: "If new matter is added to the claims, the examiner should reject the claims under 35 U.S.C. 112, first paragraph - written description requirement. *In re Rasmussen*, 650 F.2d 1212, 211 USPQ 323 (CCPA 1981)." MPEP 2163.02 teaches that "Whenever the issue arises, the fundamental factual inquiry is whether a claim defines an invention that is clearly conveyed to those skilled in the art at the time the application was filed...If a claim is amended to include subject matter, limitations, or terminology not present in the application as filed, involving a departure from, addition to, or deletion from the disclosure of the application as filed, the examiner should conclude that the claimed subject matter is not

described in that application. MPEP 2163.06 further notes "When an amendment is filed in reply to an objection or rejection based on 35 U.S.C. 112, first paragraph, a study of the entire application is often necessary to determine whether or not "new matter" is involved. Applicant should therefore specifically point out the support for any amendments made to the disclosure" This is a new matter rejection.

Response to Claim Rejections - 35 USC § 112- Second Paragraph

Claims 6-8 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite and incomplete, for omitting essential steps, in the previous office action dated August 3, 2007. In view of Applicants' amendment of claim 6, introducing the missing method step of neural stem cell differentiation, and obviating the ground for rejection, the rejection is hereby withdrawn.

Response & New Claim Rejections - 35 USC § 102

Applicants' claim amendments have necessitated the following new grounds of rejection.

Claims 4-6 and 8 stand rejected under 35 U.S.C. 102(e) as being anticipated by Csete et al. (U.S. Patent No.: 6,589,728; filed Jan. 31, 2001). The rejections set for the on pp. 3-4 of the previous office action dated August 3, 2007 are maintained for claims 4-6 and 8, and further applied to new claims 15-18 for reasons of record.

As indicated in the previous office actions, Csete et al. teach a method for isolating, maintaining, enriching and differentiating stem or precursor central nervous system cells from fetal rat brain, that are dissociated to a single-cell suspension and plated on tissue culture dishes in medium containing bFGF. Further teaching that the medium for isolation, proliferation and differentiation of the stem cells may be supplemented with a variety of growth factors, cytokines and serum, that include hepatocytes growth factor (HGF) (column 7). Csete et al. teach that the medium for proliferating the stem cells and the medium for differentiation of these cells can be the same or different (lines 42-45; column 7). Csete et al. further teach that the isolated progenitor cells may optionally be manipulated to express desired gene products, by transfection prior to expansion and differentiation (column 12), which constitutes the genetic modification of

the cells. Thus teaching all the limitations of instant claims 4-6 and 8; FGF-2 and bFGF being synonymous terms for the same growth factor.

Applicants disagree with the rejection, arguing that they have amended claims 4-6 to set forth particular concentrations of HGF and FGF-2, not taught by Csete. Additionally arguing that the invention in Csete relies on subatmospheric oxygen levels in culture. Applicants' arguments have been fully considered but are not found persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., atmospheric oxygen levels for culture) are not recited in the rejected claim(s), or newly rejected claims 15-18. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

With regard to the newly introduced limitation of 1ng/ml to 1 mg/ml of HGF and FGF-2 in claims 4-6, it should be noted that the criticality of the limitation is with respect to the presence of the growth factors in the culture, and not the specific concentration. The non-criticality of the concentration is evidenced by the extremely wide range of concentration claimed (i.e. 1 million fold). The optimization of growth factor concentration in cell culture was well known in the art at the time of the instant invention, as evidenced by the instant specification, stating: "To determine the optimal concentration of HGF and other particular growth factors, those skilled in the art can easily perform simple titration experiments. Such is a matter of routine experimentation." (p. 17, lines 6-10). Applicants should further note that as indicated in MPEP 2144.05: Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). Csete et al. set forth the general conditions for the inclusion of bFGF and HGF in the stem cell culture and differentiation.

This is further evidenced by Chinzei et al. (Hepatology 36(1):22-29; 2002), teaching the culture of stem cells and their subsequent differentiation, using medium containing 10 ng/ml bFGF and 10 ng/ml HGF (first column, p. 23). Thus anticipating the ranges claimed in claims 4-6 and 15-16. The bFGF and HGF added in equal concentrations (limitation of claim 17).

Regarding the limitation of claim 18, wherein the majority of the population of cells are neurons, it is noted that each of claims 4-6 comprises a step of culturing a population of cells comprising at least one neural stem cell. Csete et al. describe the isolation and culturing of neural stem and progenitor cells following the step of removing desired regions of rat CNS brain by dissection and dissociation in tissue culture, where many of the differentiated neurons die (column 15, lines 56-61). Thus, the brain tissue necessarily contains the majority of cells as neurons, prior to the expansion of dividing stem cells.

Applicants further argue that the passages in columns 7 and 15 of Csete are not entirely consistent with each other, as the passage at column 7 does not teach or suggest particularly combining HGF with FGF-2 (a.k.a., bFGF) to culture, proliferate or differentiate any kind of stem cell, and the passage at column 15, lines 51-65 of Csete is expressly directed to isolating and culturing neural stem cells. Additionally arguing that Csete but does not disclose or suggest combining FGF-2 with HGF; and with respect to differentiation of neural stem cells into neurons and glia, Csete affirmatively states that the FGF-2 (bFGF) is removed and replaced with media lacking FGF-2, and does not teach or suggest adding HGF for the purpose of culturing, proliferating or differentiating neural stem cells.

Such is not found persuasive, because the passage in column 15, describes the prior art of Hazel and Muller, constituting one embodiment with regard to stem cell differentiation. In column 7, Csete et al. state: "It is understood that the initial medium for isolating stem/progenitors, the medium for proliferation of these cells, and the medium for differentiation of these cells can be the same or different." (lines 42-45). Further teaching that the medium for isolation, proliferation and differentiation of the stem cells may be supplemented with a variety of growth factors, cytokines and serum, that include hepatocytes growth factor (HGF) (column 7). As stated in MPEP 2112: "Even if a reference discloses an inoperative device, it is prior art for all that it teaches." *Beckman Instruments v. LKB Produkter AB*, 892 F.2d 1547, 1551, 13

USPQ2d 1301, 1304 (Fed. Cir. 1989). Thus Applicants cannot ignore the teachings of Csete et al. as a whole. Moreover, instant claim 6 is the only claim directed to the differentiation of neural stem cells, and does not provide any limitation with regard to the presence or absence of growth factors in the differentiation step, as the recited HGF is part of the culturing step.

Therefore the rejection of claims 4-6 and 8 is maintained, and applied to newly added claims 15-18, for reasons of record and the foregoing discussion.

Response & New Claim Rejections - 35 USC § 103

Applicants' claim amendments have necessitated the following new grounds of rejection.

Claims 4-7 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Csete et al. (U.S. Patent No.: 6,589,728; filed Jan. 31, 2001), in view of Luskin (U.S. Patent No.: 5,753,505; filed Jul. 6, 1995). The rejection set for the on pp. 4-5 of the previous office action dated August 3, 2007 is maintained for claims 4-7, and further applied to newly added claims 19-23 for reasons of record, and the commentary set forth below. (It should be noted that p. 4 of the previous office action dated August 3, 2007 contained typographical errors, setting forth the rejection claim 7 in the first line, but referring to rejection of claims 4-6 and 8 in the fourth line. As claim 7 depends from claims 4-6, the rejection is inclusive of claims 4-6 and 7, and not claims 4-6 and 8).

Csete et al. disclose a method for isolating, maintaining, enriching and differentiating stem or precursor cells from fetal rat brain, comprising culturing in medium containing hepatocytes growth factor (HGF) (Abstract and columns 7 and 15). Further teaching that the medium for isolation, proliferation and differentiation of the stem cells may be supplemented with a variety of growth factors, cytokines and serum, that include hepatocytes growth factor (HGF) (column 7). Csete et al. describe that the medium for proliferating the stem cells and the medium for differentiation of these cells can be the same or different (lines 42-45; column 7). Csete et al. further teach that the isolated progenitor cells may optionally be manipulated to

express desired gene products, by transfection prior to expansion and differentiation (column 12), which constitutes the genetic modification of the cells (limitation of claim 23).

While Csete et al. do not describe the isolation of the neural stem cells from ventricular tissue, the authors state that suitable solid tissues include the brain and central nervous tissue from which neurons and other supporting cells are derived (column 5). Luskin describes a method of obtaining neuronal progenitor cells comprising isolating the cells from portions of a mammalian brain that is the equivalent of the anterior portion of the subventricular zone surrounding the ventricle of a neonatal rat brain (column 4; limitation of claims 7 and 22).

New claims 19-21 are directed to methods of culturing, proliferating, or differentiating neural stem cells "at atmospheric oxygen levels". Luskin et al. describe neural progenitor cells which can give rise to progeny which can differentiated into neuronal cells, comprising isolating cells from the mammalian brain subventricular zone, and culturing the isolated cells in the absence of mitotic inhibitors (second paragraph, column 4). In Example, 3, Luskin et al. describe cell culture conditions for the isolated subventricular zone cells, in medium at 37°C, in 7% CO_2. As Luskin et al. only disclose the level of CO_2 utilized, and do not lower the oxygen levels in their culture conditions, the conditions must necessarily comprise atmospheric oxygen levels that were routinely used in the prior art (limitation of claims 19-21). It is further noted that while Csete et al. disclose subatmospheric oxygen culture conditions as a preferred embodiment, they state: " Physiological oxygen and hypoxic oxygen conditions can be used at any time during the growth and differentiation of cells in culture" (column 6, lines 4-6). Thus, not requiring such conditions throughout culture, expansion and differentiation. Additionally stating: "The optimal physiological or hypoxic conditions for any given progenitor/stem cell type will vary" (column 6, lines 51-52); also stating: "Following an initial exposure to low or physiologic oxygen culturing conditions, cells can be maintained in these conditions or returned to normal laboratory oxygen conditions" (column 7,lines 36-39). Therefore it is clear that Csete et al. do not limit the culture and differentiation of the stem cells to subatmospheric oxygen conditions.

Applicants traverse the rejection, stating that the present methods are a selection invention particularly directed to the culture, proliferation and differentiation of neural stem cells by culturing them in a growth medium comprising the particularly selected combination of HGF and FGF-2, and arguing that in the passage in column 7 of Csete, no particular combination of

growth factors is called out and no particular stem cell type is called out. Applicants' arguments have been fully considered but are not found persuasive.

Csete et al. specifically describe undifferentiated neural progenitor and stem cells and their isolation, culture and differentiation in medium containing bFGF (column 15, lines 45-60). In addition to bFGF, Csete et al. specifically disclose HGF and six growth factors as suitable supplemental growth factors in medium containing serum (column 7). The limited list of growth factors does not constitute a myriad of permutations of growth factors to match up for culture, proliferation or differentiation, as alleged by Applicants.

Applicants further argue that Where Csete does expressly discuss neural stem cells in the passage in column 15, Csete teaches away from the present methods by teaching that FGF-2 is removed prior to differentiation neural stem cells, and makes no mention of HGF in the growth medium of neural stem cells. Such is not found persuasive, because as indicated in the foregoing, the passage in column 15, describes the prior art of Hazel and Muller, constituting one embodiment with regard to stem cell differentiation. Csete et al. describe that the medium for proliferating the stem cells and the medium for differentiation of these cells can be the same or different (lines 42-45; column 7). Accordingly, the same proliferating medium containing FGF-2 may thus be used for differentiation.

As stated in MPEP 2123, Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. *In re Susi*, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). Furthermore, "[t]he prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed…." *In re Fulton*, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

Applicants' are further directed to the response set forth above regarding the teachings of Csete et al. and Luskin et al. with regard to arguments based on particular concentration of growth factors and atmospheric oxygen.

Applicants further argue that Luskin does not teach or suggest in any way that HGF would find use in culturing, proliferating or differentiating neural stem cells. In response to

applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The limitation of HGF in culture medium is supplied by Csete et al.

Applicants have argued that they have rebutted any alleged *prima facie* case of obviousness by demonstrating an unexpected synergistic effect of HGF and FGF-2 in promoting the growth and differentiation of neural stem cells; shown in columns 1-3 of Table 1 on page 35 of the present application; and though FGF-2 and EGF also are structurally and functionally distinct growth factors, their combined effects were less than additive. Further arguing, there is no *a priori* reason for the skilled person to expect that the combination of HGF and FGF-2 should be synergistic and the combination of FGF-2 and EGF be less than additive in promoting the proliferation of neural stem cells. Such is not found persuasive, because it is not clear why an increase in proliferative capacity of the cells in the presence of growth factors additional to HGF alone would be considered unexpected. As stated by Applicants, there is no *a priori* reason for the skilled person to expect that the combination of HGF and FGF-2 should be synergistic; on the other hand, if the addition of a second growth factor for proliferation of stem cells would not be expected to have any additional effect, then there would be no reason for the prior art of Csete et al. to suggest the addition of a second growth. Applicants are reminded that the instant claims are directed to methods using HGF, and FGF-2, thus effects of EGF are not germane to the instant claims.

Further, Table 1 is silent on the concentration of FGF-2 utilized in the experiments, as the only concentrations provided appear to be for HGF; thus it is unclear what concentration of FGF-2 was included in the assay. Moreover, any "unexpected" results would be so considered in view of an expected result. In the instant case, increased proliferative potential when more than one growth factor is utilized in a culture medium would not be unexpected. As indicated in MPEP 716.02(c), "Expected beneficial results are evidence of obviousness of a claimed invention, just as unexpected results are evidence of unobviousness thereof." *In re Gershon*, 372 F.2d 535, 538, 152 USPQ 602, 604 (CCPA 1967).

As stated in MPEP 2145, I. The arguments of counsel cannot take the place of evidence in the record. In re Schulze, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997) ("An assertion of what seems to follow from common experience is just attorney argument and not the kind of factual evidence that is required to rebut a prima facie case of obviousness."). See MPEP § 716.01(c) <http://www.uspto.gov/web/offices/pac/mpep/documents/0700_716_01_c.htm> for examples of attorney statements which are not evidence and which must be supported by an appropriate affidavit or declaration. Examples of attorney statements which are not evidence and which must be supported by an appropriate affidavit or declaration include statements regarding **unexpected results**, commercial success, solution of a long-felt need, inoperability of the prior art, invention before the date of the reference, and allegations that the author(s) of the prior art derived the disclosed subject matter from the applicant. MPEP 716.01(c).

Applicants argue that in the presence of HGF a majority of the differentiated cells are neurons, whereas in the absence of HGF, only about 30% of the differentiated cells are neurons. In response, it should be noted that as Csete et al. disclose the presence of HGF and FGF-2 in their culture medium, including medium for differentiation, the amount of neurons produced would be an inherent property of the combined growth factors. As stated in MPEP 2112: The express, implicit, and inherent disclosures of a prior art reference may be relied upon in the rejection of claims under 35 U.S.C. 102 or 103. "The inherent teaching of a prior art reference, a question of fact, arises both in the context of anticipation and obviousness." *In re Napier*, 55 F.3d 610, 613, 34 USPQ2d 1782, 1784 (Fed. Cir.1995) (affirmed a 35 U.S.C. 103 rejection based in part on inherent disclosure in one of the references). See also *In re Grasselli*, 713 F.2d 731, 739, 218 USPQ 769, 775 (Fed. Cir. 1983).

Moreover, "[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer." *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). Thus the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. In re Best, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977).

Therefore the rejection is maintained for claims 4-7, and further applied to newly added claims 19-23 for reasons of record and the foregoing discussion.

Conclusion

Claims 4-8 and 15-23 are not allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FEREYDOUN G. SAJJADI whose telephone number is (571)272-3311. The examiner can normally be reached on 6:30 AM-3:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Woitach can be reached on (571) 272-0739. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Fereydoun G Sajjadi/

Fereydoun G. Sajjadi, Ph.D.
Examiner, Art Unit 1633